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Timothy G. Offerle

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EXAMINER

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1 UNITED STATES PATENT AND TRADEMARK OFFICE

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4 BEFORE THE BOARD OF PATENT APPEALS  
5 AND INTERFERENCES  
6

7  
8 *Ex parte* TIMOTHY G. OFFERLE, CRAIG H. STEPHAN  
9 and DOUGLAS S. RHODE  
10

11  
12 Appeal 2009-001782  
13 Application 10/708,676  
14 Technology Center 3600  
15

16  
17 Decided: September 25, 2009  
18

19  
20 Before WILLIAM F. PATE, III, JOHN C. KERINS, and  
21 FRED A. SILVERBERG, *Administrative Patent Judges*.

22 SILVERBERG, *Administrative Patent Judge*.  
23  
24

25  
26 DECISION ON APPEAL

## STATEMENT OF THE CASE

Timothy G. Offerle et al. (Appellants) seek our review under 35 U.S.C. § 134 of the final rejection of claims 1-35. We have jurisdiction under 35 U.S.C. § 6(b) (2002).

## SUMMARY OF DECISION

**We AFFIRM-IN-PART.**

## THE INVENTION

The Appellants' claimed invention is directed to the tracking of a trailer 160 behind a vehicle 10 (Spec.: ¶ [0008]).

Claim 1, reproduced below, is representative of the claimed subject matter on appeal:

1. A method of controlling a vehicle comprising:
  - determining a straight position of the trailer using a trailer sensor during forward motion of the vehicle; and controlling the vehicle to maintain the trailer in the straight position.

## THE REJECTIONS

The Examiner relies upon the following as evidence of unpatentability<sup>1</sup>:

<sup>1</sup> The Examiner has listed Kimbrough, Deng and Funke as references under the section Evidence Relied Upon (Ans. 2-3). However, none of the rejections on appeal have been based on Kimbrough, Deng or Funke. Further, the Examiner has also listed Lee under the section Grounds of Rejection (Ans. 4) as not being applied against the claims. Therefore, Kimbrough, Deng, Funke and Lee will not be considered in this appeal.

1	Gerum	US 5,747,683	May 5, 1998
2	Mizusawa	US 2002/0145663 A1	Oct. 10, 2002
3	Thiede <sup>2</sup>	US 2003/0111902 A1	Jun. 19, 2003
4	McGregor	US 6,801,125 B1	Oct. 5, 2004

5

6 The following rejections by the Examiner are before us for review:

- 7 1. Claims 1-12, 14, 15, and 32-35 are rejected under 35 U.S.C. § 103(a)  
8 as being unpatentable over Mizusawa in view of McGregor.  
9 2. Claim 13 is rejected under 35 U.S.C. § 103(a) as being unpatentable  
10 over Mizusawa in view of McGregor, and further in view of Thiede.  
11 3. Claims 17-31 are rejected under 35 U.S.C. § 103(a) as being  
12 unpatentable over Mizusawa in view of McGregor, and further in  
13 view of Gerum.

14

## 15 ISSUES

16 The issues before us are whether: (1) the Examiner erred in finding  
17 that the combined teachings of Mizusawa and McGregor would have led one  
18 having ordinary skill in the art to a method of controlling a vehicle during  
19 forward motion of the vehicle as called for in claim 1 (App. Br. 5); (2) the  
20 Examiner erred in finding that the combined teachings of Mizusawa and  
21 McGregor would have led one having ordinary skill in the art to determining  
22 a position of a trailer using a locating plate having a locating hole on the  
23 trailer as called for in claim 32 (App. Br. 7); and (3) the Examiner erred in  
24 finding that the combined teachings of Mizusawa, McGregor and Gerum

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<sup>2</sup> The Examiner has not listed Thiede as a reference under the section Evidence Relied Upon (Ans. 2-3). However, Thiede has been applied against claim 13 in the Grounds of Rejection (Ans. 6). Therefore, Thiede will be considered as a reference in this appeal.

1 would have led one having ordinary skill in the art to a secondary steering  
2 actuator coupled to a controller, wherein the controller is programmed to  
3 brake-steer the vehicle to maintain the vehicle in the desired trailer-turn  
4 direction as called for in claim 17 (Reply Br. 5; App. Br. 7).

5  
6 FINDINGS OF FACT

7 We find that the following enumerated findings are supported by at  
8 least a preponderance of the evidence. *Ethicon, Inc. v. Quigg*, 849 F.2d  
9 1422, 1427 (Fed. Cir. 1988) (explaining the general evidentiary standard for  
10 proceedings before the Office).

11 *The Examiner's Findings*

12 *Claims 1-12, 14 and 15*

- 13 1. The Examiner finds that Mizusawa describes all of the limitations  
14 called for in claim 1, except that Mizusawa does not describe using  
15 a trailer sensor during forward motion to determine a straight  
16 position of the trailer as called for in claim 1 (Ans. 4).
- 17 2. The Examiner finds that McGregor describes using sensors [42] to  
18 determine the alignment of the ball and socket connectors, that is, a  
19 straight position of a trailer (col. 1, ll. 43-50) (Ans. 4).
- 20 3. The Examiner concludes that it would have been obvious to  
21 provide Mizusawa with a sensor as taught by McGregor [at 42] to  
22 determine the straight position of the trailer as the vehicle is moved  
23 forward to line up the hitch ball with the hole/socket [coupler] on  
24 the trailer (Ans. 4).
- 25 4. The Examiner finds that “[t]he limitation of ‘controlling the  
26 vehicle to maintain the trailer in a straight position’ as broadly

1           claimed can be easily achieved by the driver (and mirror system on  
2           the vehicle) alone.” (Ans. 4, 8).

3       *Claims 32-35*

4       5.     The Examiner finds that the combined teachings of Mizusawa and  
5           McGregor describe the limitations called for in claims 32-35 (Ans.  
6           5).

7       6.     The Examiner finds that the claimed locating plate having a  
8           locating hole is an obvious alternative to the known vehicle/trailer  
9           hitch connections (Ans. 8).

10      *Claims 17-31*

11     7.     The Examiner finds that McGregor describes a steering actuator 38  
12           (Ans. 6).

13     8.     The Examiner finds that there is no clear mention of brake-steer in  
14           either of Mizusawa or McGregor (Ans. 6).

15     9.     The Examiner finds that Gerum describes that brake-steer is old  
16           and well known in the art (col. 4, ll. 48-55; cls. 9, 10) (Ans. 6).

17     10.    The Examiner finds that it would be obvious to apply the concept  
18           of brake-steer to Mizusawa, as modified (Ans. 6).

19      *The Board's Findings*

20     11.    Appellants have not contested the Examiner's findings as to the  
21           combinability of the teachings of Mizusawa and McGregor (Reply  
22           Br. 1 and App. Br. 5).

23     12.    Additional findings as necessary appear in the Analysis portion of  
24           this opinion.

25

PRINCIPLES OF LAW

*Appellants' Burden*

Appellants have the burden on appeal to the Board to demonstrate error in the Examiner's position. *See In re Kahn*, 441 F.3d 977, 985-86 (Fed. Cir. 2006) ("On appeal to the Board, an applicant can overcome a rejection [under § 103] by showing insufficient evidence of *prima facie* obviousness or by rebutting the *prima facie* case with evidence of secondary indicia of nonobviousness.") (quoting *In re Rouffet*, 149 F.3d 1350, 1355 (Fed. Cir. 1998)). *See also Ex parte Yamaguchi*, 88 USPQ2d 1606, 1614 (BPAI 2008) [burden on appeal] (on appeal, applicant must show examiner erred); *Ex parte Fu*, 89 USPQ2d 1115, 1123 (BPAI 2008); *Ex parte Catan*, 83 USPQ2d 1569, 1577 (BPAI 2007); and *Ex parte Smith*, 83 USPQ2d 1509, 1519 (BPAI 2007).

*Obviousness*

"Section 103 forbids issuance of a patent when 'the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.'" *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art, (2) any differences between the claimed subject matter and the prior art, (3) the level of skill in the art, and (4) where in evidence, so-called secondary considerations. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966). *See also KSR*, 550 U.S. at 406-407 ("While the sequence of these questions

might be reordered in any particular case, the [*Graham*] factors continue to define the inquiry that controls.”).

#### ANALYSIS

Appellants argue claims 1-12, 14 and 15 as a group (App. Br. 5). As such, we select claim 1 as representative of the group, and claims 2-12, 14 and 15 will stand or fall with claim 1. 37 C.F.R. § 41.37(c)(1)(vii) (2007). In contesting the rejection of claim 13 under 35 U.S.C. § 103(a) as being unpatentable over Mizusawa in view of McGregor and Thiede, Appellants provide no further arguments regarding this claim than those presented for claim 1 (App. Br. 7).

*Rejection of claims 1-12, 14, and 15 under 35 U.S.C. § 103(a) as being unpatentable over Mizusawa in view of McGregor, and claim 13 as being unpatentable over Mizusawa in view of McGregor, and further in view of Thiede.*

*Regarding claim 1:* Appellants contend that the combined teachings of Mizusawa and McGregor would not have led one having ordinary skill in the art to a method of controlling a vehicle during forward motion of the vehicle as called for in claim 1 (App. Br. 5). Appellants further contend that both Mizusawa and McGregor describe a docking mode for a vehicle and a trailer, and do not determine the straight position of a trailer relative to the vehicle during forward motion as called for in claim 1 (Reply Br. 3; App. Br. 5-6).

We see no error in the Examiner’s findings that Mizusawa describes all of the limitations called for in claim 1, except that Mizusawa does not describe the trailer sensor called for in claim 1 (Fact 1). We see no error in



1 the Examiner's findings that McGregor describes sensors to determine a  
2 straight position of a trailer (Fact 2).

3 Appellants have not contested the Examiner's findings as to the  
4 combinability of the teachings of Mizusawa and McGregor (Fact 11).

5 We find that to connect the vehicle to the trailer, the vehicle could  
6 simply drive along the side of the trailer to a position immediately in front of  
7 the trailer. During such forward movement of the vehicle, the sensor 42  
8 would determine when the vehicle and the trailer would be lined up for  
9 hitching the ball to the socket, that is, the sensor 42 would determine when  
10 the trailer was in line with the vehicle-a straight position of the trailer.

11 Therefore, we see no error in the Examiner's conclusion (Fact 3) and  
12 conclude that it would have been obvious to a person having ordinary skill in  
13 the art to provide Mizusawa with a sensor as taught by McGregor at 42 to  
14 determine the straight position of the trailer.

15 We see no error in the Examiner's findings that the driver (and mirror  
16 system on the vehicle) alone could control the vehicle to maintain the trailer  
17 in a straight position (Fact 4). Further, we find that the driver (and mirror  
18 system on the vehicle) could determine the straight position of the trailer  
19 using the mirror, wherein the mirror would be the trailer sensor.

20 Therefore, we conclude that the Appellants have not demonstrated  
21 that the Examiner erred in rejecting claim 1 over Mizusawa in view of  
22 McGregor. The Appellants have likewise not demonstrated error in the  
23 Examiner's rejection of claims 2-12, 14 and 15, which fall with claim 1.

24 *Regarding claim 13:* Appellants provide no further contentions  
25 regarding claim 13 than those presented for claim 1 (App. Br. 7). Therefore,  
26 for the reasons set forth above in our discussion of the rejection of claim 1,

1 we conclude that Appellants have not demonstrated that the Examiner erred  
2 in rejecting claim 13 over Mizusawa in view of McGregor, and further in  
3 view of Thiede.

4  
5 *Rejection of claims 32-35 under 35 U.S.C. § 103(a) as being unpatentable*  
6 *over Mizusawa in view of McGregor*

7 Appellants contend that the combined teachings of Mizusawa and  
8 McGregor do not describe a locating hole in a locating plate as called for in  
9 claim 32 (Reply Br. 4; App. Br. 7). Appellants further contend that a  
10 locating plate having a locating hole is not an obvious modification (Reply  
11 Br. 4).

12 The Examiner found (1) that the combined teachings of Mizusawa and  
13 McGregor describe the limitations called for in claims 32-35 (Fact 5), and  
14 (2) the claimed locating plate having a locating hole is an obvious alternative  
15 to the known vehicle/trailer hitch connections (Fact 6).

16 We agree with Appellants that a locating plate having a locating hole  
17 provides the advantage of avoiding potential damage to the trailer/hitch  
18 connection caused by a ball and hitch not being exactly aligned before  
19 connection is attempted (Reply Br. 4). Accordingly, we conclude that the  
20 claimed locating plate having a locating hole is not an obvious alternative to  
21 the known vehicle /trailer hitch connections.

22 Therefore, we conclude that Appellants have demonstrated that the  
23 Examiner erred in rejecting claim 32 over Mizusawa in view of McGregor.  
24 The Appellants have likewise demonstrated error in the Examiner's rejection  
25 of claims 33-35, which depend from claim 32.

1 *Rejection of claims 17-31 under 35 U.S.C. § 103(a) as being unpatentable*  
2 *over Mizusawa in view of McGregor, and further in view of Gerum*

3 Appellants contend that the combined teachings of Mizusawa,  
4 McGregor and Gerum would not have led one having ordinary skill in the art  
5 to a secondary steering actuator coupled to a controller, wherein the  
6 controller is programmed to brake-steer the vehicle to maintain the vehicle  
7 in the desired trailer-turn direction as called for in claim 17 (Reply Br. 5;  
8 App. Br. 7-8). Appellants further contend that neither Mizusawa, McGregor  
9 nor Gerum describe a secondary actuator as called for in claim 17 (App. Br.  
10 8)

11 Claim 17 calls for, *inter alia*, “a controller coupled to the secondary  
12 steering actuator, ... said controller programmed to brake-steer the vehicle to  
13 maintain the vehicle in the desired trailer-turn direction.”

14 The Examiner found (1) that McGregor describes a steering actuator  
15 38 (Fact 7), (2) that there is no clear mention of brake-steer in either of  
16 Mizusawa or McGregor (Fact 8), (3) Gerum describes that brake-steer is old  
17 and well known in the art (Fact 9), and (4) that it would be obvious to apply  
18 the concept of brake-steer to Mizusawa, as modified (Fact 10).

19 However, the Examiner has not found, nor do we find, that the  
20 combined teachings of Mizusawa, McGregor and Gerum describe a  
21 secondary steering actuator coupled to a controller, wherein the controller is  
22 programmed to brake-steer the vehicle to maintain the vehicle in the desired  
23 trailer-turn direction as called for in claim 17.

24 Therefore, we conclude that Appellants have demonstrated that the  
25 Examiner erred in rejecting claim 17 over Mizusawa in view of McGregor,  
26 and further in view of Gerum. The Appellants have likewise demonstrated

1 error in the Examiner's rejection of claims 18-31, which depend from claim  
2 17.

3  
4 CONCLUSIONS OF LAW

5 Appellants have not established that the Examiner erred in finding that  
6 the combined teachings of Mizusawa and McGregor would have led one  
7 having ordinary skill in the art to a method of controlling a vehicle during  
8 forward motion of the vehicle as called for in claim 1. Appellants have  
9 established that the Examiner erred in finding that the combined teachings of  
10 Mizusawa and McGregor would have led one having ordinary skill in the art  
11 to determining the position of a trailer using a locating plate having a  
12 locating hole on the trailer as called for in claim 32. Appellants have  
13 established that the Examiner erred in finding that the combined teachings of  
14 Mizusawa, McGregor and Gerum would have led one having ordinary skill  
15 in the art to a secondary steering actuator coupled to a controller, wherein  
16 the controller is programmed to brake-steer the vehicle to maintain the  
17 vehicle in the desired trailer-turn direction as called for in claim 17.

18  
19 DECISION

20 The decision of the Examiner to reject claims 1-12, 14, and 15 over  
21 Mizusawa in view of McGregor, and claim 13 over Mizusawa in view of  
22 McGregor, and further in view of Thiede is affirmed. The decision of the  
23 Examiner to reject claims 32-35 over Mizusawa in view of McGregor, and  
24 claims 17-31 over Mizusawa in view of McGregor, and further in view of  
25 | Gerum, is reversed.

1       No time period for taking any subsequent action in connection with  
2 this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv) (2007).

3  
4                                   AFFIRMED-IN-PART

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